

Action of Salvarsan in Anthrax.—BETTMANN and LAUBENHEIMER (*Deutsch. med. Woch.*, 1912, xxxviii, 349) report clinical and experimental results of the treatment of anthrax with salvarsan. Two patients presented themselves with typical anthrax infection. Each was given salvarsan 0.3 gm. intravenously and five days later a second dose of 0.4 gm. In each case recovery took place. The subsidence of the local signs was striking after forty-eight hours from the first injection. Within five days no bacilli were found in the pustules, and cultures were negative. Since anthrax usually terminates in recovery in human infections, it was decided to test the action of salvarsan experimentally. This was done with guinea-pigs. The result was that animals treated within five and a half hours after experimental infection almost always recovered, while controls, untreated, succumbed within two days. Animals which had recovered under salvarsan were re-inoculated with anthrax several weeks later, without treatment. They died promptly from the infection.

Chemistry and Toxicology of Ascarides.—F. FLURY (*Archiv f. exp. Path. u. Pharmacol.*, 1912, lxvii, 275), reports the results of painstaking and extensive researches into the chemistry and toxicology of Ascarides. Little is known of the biochemistry of the intestinal parasites and it is practically certain that the explanation of most, if not all, of the symptoms associated with such infections will not be entirely clear until such knowledge is obtained. Only the briefest partial summary of the present communication is possible. Flury's experiments were made on *Ascaris lumbricoides* and *Ascaris megalocephala*. On the relation of the body constituents and excrements of ascarides to the symptoms observed in the host, the following facts have been determined. Both in the body substances and in the excreta numerous substances are present which are capable of causing local irritation, hyperemia, inflammation, and necrosis. Most important in this connection are the volatile aldehydes of the fatty acids (which probably arise from the reduction of the corresponding acids), also the free volatile fatty acids of which the author isolated valerianic and butyric acids in considerable quantity and in smaller amounts, formic, acrylic, and propionic acids. Furthermore, local irritants, such as alcohols and esters of the ethyl-, butyl-, and amyl-series, were found. It is, no doubt, these substances which are largely responsible for the severe irritative symptoms, so well known to zoölogists, and for the hypersusceptibility which is not uncommon following repeated action of aldehydes; urticaria-like lesions are known to result from the vascular effects of esters of acids. In infected patients the prolonged action of such substances on the intestinal mucous membrane may well lead to symptoms. In addition to their irritative effects Flury has shown that the free acids, even in dilute solution, have a corrosive action which may injure the intestine. The digestive disturbances, which at times occur in ascaris infections may be due to the factors named. The absorption of substances from the intestine may be still more important. The conditions are present for the production of a chronic acidosis. Symptoms referable to the central nervous system, such as hallucinations, chorea, hysteria, epilepsy, delirium, etc. are explicable through chronic poisoning with aldehyde, especially atypically acting compounds of the amyl series.

Flury considers valerianic, formic, and acrylic acids particularly important in relation to nervous symptoms. The so-called meningitic form of *Ascaris* infection can be caused by any of several substances (alcohols, aldehydes, esters) acting on the meninges and producing increased intracranial tension from stimulation of the secretion of cerebrospinal fluid. Of nitrogenous compounds Flury has found a capillary poison which, when administered to dogs, causes fatal intestinal hemorrhage. The purin bases isolated may cause marked irritative effects in the central nervous system. The anemia seen at times in patients infected with *ascaris* may be due to the continued absorption of hemolytic substances. In this connection the most important are the unsaturated fatty acids and acrylic acid. Furthermore, injury to the blood may be due to reducing substances and those which inhibit coagulation. Additional toxins may be absorbed when the parasites die in the intestines and undergo decomposition.

Deodorizing Excreta.—A. CZERNY (*Berlin. klin. Woch.*, 1912, xlix, 450), refers to the disagreeableness of odors in the sick room. Not only the patient but the attendants as well are annoyed. In a large hospital ward the nuisance becomes even more serious. A simple deodorant for feces is highly desirable. At the suggestion of Uhlenhuth, Czerny tried antiformin. He finds that about 50 c.c. of 10 per cent. antiformin causes immediate and complete deodorization of fluid or soft stools. With formed feces the result is accomplished somewhat less quickly by pouring antiformin upon them, for the quantity used is not sufficient to cover the feces. Another use for the deodorant is its application to clothing, etc., repeatedly soiled by children. Even after the most thorough washing, some odor usually remains, but rinsing in 5 per cent. antiformin completely removes the odor without injury to the fabric. Again the method possesses an advantage in hospitals or dwellings which are unscreened, since the suppression of the odor greatly lessens the fly nuisance. Because of the low cost of antiformin (in Germany) the method may be widely applied.

Leukocytic Inclusions in Scarlatina.—M. KRETSCHMER (*Berlin. klin. Woch.*, 1912, xlix, 499), confirms the findings of Döhle who recently reported inclusions in the polynuclear neutrophile cells in scarlet fever. Kretschmer has found Manson's stain the most satisfactory for the purpose. A stock solution of 2 gm. methylene blue dissolved in 100 c.c. of boiling 5 per cent. borax solution is prepared. The blood smears are fixed in methyl alcohol, or in other ways, and are stained with a dilution of the stock solution, which should be transparent when held to the light. Stain 10 to 30 seconds, wash, dry, and mount. Red blood cells are light green to greenish blue, nuclei of leukocytes dark blue with reddish tint, and the inclusions are usually a somewhat paler blue, while the proplasm of the white blood cells is practically unstained. The inclusions vary in number from one to six. The form is not uniform; round or oval bodies the size of cocci, at times placed close together, appear, or crescent-shaped bodies with round or pointed ends are seen. They are invisible in the fresh specimen or with dark field illumination. Kretschmer has found these inclusions in the neutrophilic cells of 30 consecutive cases of scarlatina without exception.